

DOCKET NO.: RTS-0242US.P1

PATENT

REMARKS

Claims 1-10 are pending in the current case. Claim 10 has been canceled. Claim 1 has been amended. Claims 11 and 12 have been added. These amendments are supported in Tables 1, 2 and 6 of the specification. No new matter has been added.

SEQ ID NOs have been incorporated into the specification on page 128 of the specification as required by the Examiner. The sequences have been added to the Sequence Listing. The Applicants submit that the amendment does not constitute new matter as the SEQ ID NOs only serve to provide indicators of the location of the previously recited sequences. The Applicants submit that in view of the foregoing amendments and following comments that the case is now in proper form for allowance.

Rejections under 35 USC 112, paragraph 2

Claims 1-10 are rejected under 35 USC 112, paragraph 2. Claim 1 has been amended per the suggestion of the Examiner to include the phrase "a nucleic acid molecule (SEQ ID NO: 3) encoding human superoxide dismutase 1, soluble." The Applicants submit that the object of the claim was clear as originally written and that the addition of the language does not alter the scope of the claim. However, in the interest of furthering the prosecution of this case, the amendment has been entered. As claim 1 is now definite, claims 2-9 are also definite. Claim 10 has been canceled without prejudice, and the Applicants reserve the right to file a continuation application based on claim 10. The Applicants submit that the rejection of the claims under 35 USC 112, paragraph 2 is traversed.

Rejections under 35 USC 102 or 103

The Examiner has rejected claims 1-2 under 35 USC 102(b) or 103(a) as being anticipated or obvious in view of each Chenchik (US Patent No 5,994,076) and Brown (US Patent No 5,849,290). The Examiner states that Chenchik teaches a compound 28 nucleobases in length targeted to nucleobases 106 to 133 of a nucleic acid molecule (SEQ ID NO: 3) encoding human superoxide dismutase 1, soluble; and that Brown teaches a compound 20 nucleobases in length targeted to nucleobases 298 to 317 of nucleic acid molecule (SEQ ID NO 3) encoding human superoxide dismutase 1, soluble.

DOCKET NO.: RTS-0242US.P1**PATENT**

The Applicants respectfully submit that the sequences cited by the Examiner are identical or substantially identical to portions of SEQ ID NO 3 (i.e. sense sequences) and would not hybridize to SEQ ID NO 3 as required by the claim. It is noted that the sequences cited are identified as being single stranded. Therefore, the references and nucleotide sequences are irrelevant to the patentability of the instant claims, making the rejections under 35 USC 102(b) and 103(a) in view of each Chenchik and Brown moot.

However, in the interest of furthering the prosecution of the instant application, the claims have been amended as set forth above. Claim 1 now recites a compound targeted to nucleobases 436 to 477.

Rejection under 35 USC 103

The Examiner has rejected claims 1-3 under 103(a) as being unpatentable over Huang (US Patent No. 5,994,076) in view of Baracchini (US Patent No. 5,801,154) in further view of Bennett (US Patent No. 6,077,833). The Applicants respectfully suggest that the Examiner has misidentified the Huang reference as being US Patent No. 5,994,076. The Applicants assume that the Huang reference being cited by the Examiner is the non-patent reference from *Nature*, 2000 cited by the Examiner. This assumption is based on the reference to page and figure numbers on the top of page 14 of the office action. If this assumption is not correct, the Applicants respectfully request clarification of the rejection.

The Examiner states that Huang teaches an antisense compound targeted to a nucleic acid molecule encoding human superoxide dismutase 1, soluble, but that Huang does not teach antisense sequences specifically targeted to nucleotides 96-523 further comprising internucleoside linkage, nucleobase and 2' modifications, or chimeras. The Examiner states that such modifications and chimeras are taught by both Baracchini and Bennett. The Examiner further states that it would have been obvious to those of ordinary skill in the art to incorporate the modifications taught by Baracchini and Bennett into the teachings of Huang.

The Applicant respectfully disagree with the Examiner that it would have been obvious to combine the teachings of Huang with either Baracchini or Bennett. The Applicants submit that there is no motivation to combine the teachings of the references cited.

Moreover, the Applicants submit that the teaching of an oligonucleotide targeted to a

DOCKET NO.: RTS-0242US.P1**PATENT**

region outside of the region in the original claim 1, and the newly amended claim 1, cannot make the target region of the instant claims obvious. The teachings of Barachchini and Bennett do not overcome the deficiencies of the teachings of the Huang reference to provide for targeting of oligonucleotides to the region now claimed.

As claim 1 is not obvious in view of the prior art, the remaining claims which are all dependent either directly or indirectly on claim 1 are also not obvious. Therefore, the Applicants submit that the rejection under 103(a) for obviousness over Huang in view of Baracchini and Bennett is moot.

Support for newly added claims

Claims 11 and 12 have been added. Claim 11 is supported in Table 6 which teaches oligonucleotide ISIS No 333624 (SEQ ID 314) targeted to nucleotides 469 to 488 in rat SOD-1, soluble (SEQ ID 149), which is identical to a portion of human SOD-1 soluble as noted at the end of the table, specifically nucleotides 440 to 459 of human SOD-1, soluble (SEQ ID NO 3). Claim 12 is supported by Table 6 which teaches oligonucleotide 333636 (SEQ ID NO 122) targeted to nucleotides 452 to 471 of human SOD-1, soluble (SEQ ID NO 3). No new matter has been added.

The claims are dependent on the allowable claim 1, and are therefore allowable. Moreover, as the claims recite a subset of the target region recited in claim 1, no new search is required.

Uninitialed Reference on Form PTO-1449 Modified

The Applicants note that reference AP was not initialed on sheet 4 of 4 of the Form PTO-1449 filed in conjunction with the Information Disclosure Statement. No statement was made by the Examiner regarding any problems with this reference. The Applicants respectfully request that the Examiner initial the form and return a copy to the Applicants with the next communication.

FEES

The Commissioner is hereby authorized to charge the \$60.00 fee for a one month

DOCKET NO.: RTS-0242US.P1**PATENT**

extension, small entity to Deposit Account 50-0252, referencing case number RTS-0242US.P1. It is believed that there are no additional fees due with this response. However, if an additional fee is due, the Commissioner is hereby entitled to charge the Deposit Account named above.

CONCLUSION

The Applicants submit that the application is now in proper form for allowance. If the Examiner believes that there are any outstanding issues remaining in the case, she is encouraged to contact the Agent for Applicant listed below to discuss the matter.

Respectfully submitted,

Date: August 29, 2005



Colleen J. McKiernan
Agent for Applicant
Registration No. 48,570

ISIS PHARMACEUTICALS, INC
1896 Rutherford Road
Carlsbad, CA 92008
Ph: 760-931-9200
Fax: 760-603-3820